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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/912,598	07/26/2001	Bun Mizuhara	NEC01P108-HSc	7194
466	7590	09/22/2005	EXAMINER	
YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			HAILE, FEBEN	
			ART UNIT	PAPER NUMBER
			2663	

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/912,598	<b>Applicant(s)</b> MIZUHARA ET AL.	
	<b>Examiner</b> Feben M Haile	<b>Art Unit</b> 2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 3, 7 & 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chinnaswamy et al. (US 6,611,526), hereinafter referred to as Chinnaswamy, in view of Kozaki et al. (US 6,389,026), hereinafter referred to as Kozaki.

**Regarding claims 1 and 7,** Chinnaswamy discloses a router device comprising: packet control means for adding said header information to said packet (column 7 lines 17-18; a slot processor adds a tag to the front of a packet for routing the packet within the backplane mesh of the switch), said header information including at least an in-device priority mode for representing priority in said device (column 7 lines 18-19 and column 9 line 1; the added tag has a priority field indicating packet priority), an in-device discard level for representing a probability of discard in said device (column 7 lines 18-19 and column 8 lines 64-65; the added tag has a keep field for indicating whether a packet is to be dropped), and a queue number (column 7 lines 23-25; the added tag has a destination mask field indicating a queue the packet is destined for), wherein said header information is used to perform priority control (column 8 lines 54-55; the different header fields indicate how to route the packets through the network).

Although Chinnaswamy discloses a queue number in the header (column 7 lines 23-25; the added tag has a destination mask field indicating a queue the packet is destined for), Chinnaswamy fails to teach that the queue number is used for performing bandwidth control.

However, Kozaki discloses a cell with a field indicating an output queue number **(figure 4 unit 404 and column 6 lines 53-55)** where a switch including a bandwidth control table controls the bandwidth for each queue **(figure 8 unit 105 and column 11 lines 21-23)**.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Chinnaswamy to incorporate the element taught by Kozaki. The motivation being: a switching system in which buffer memory of comparatively small capacity can be used for each output line, therefore communicating burst data more efficiently.

**Regarding claims 3 and 9,** Chinnaswamy as modified by Kozaki disclose the limitations of base claims 1 and 7. Kozaki further discloses wherein said packet control means converts a packet input thereto into an in-device cell in a form in said device, and adds said header information to said in-device **(figure 1 unit 24 and column 14 lines 27-30; a header conversion circuit converts a cell header and attaches additional information to the header)**.

2. Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chinnaswamy et al. (US 6,611,526), hereinafter referred to as Chinnaswamy, in view of

Kozaki et al. (US 6,389,026), hereinafter referred to as Kozaki in view of Jin et al. (US 6,917,617), hereinafter referred to as Jin.

**Regarding claims 2 and 8**, Chinnaswamy as modified by Kozaki disclose the limitations of base claim 1 and 7. Chinnaswamy's slot processor adds a tag to a packet that includes a queue field. Although Chinnaswamy does not explicitly state that the queue field has a designated value, it is obvious that the queue field would have to be assigned a number in order for the device to route the packets to that particular queue.

However, the modification of Chinnaswamy by Kozaki fails to teach wherein said in-device priority and said in-device discard level are used in said device to realized differentiated services.

Jin discloses a packet with a "ToS value", which is a Differentiated Services field that is used by a router to provide priority and dropping services (**Figure 1B and column 1 lines 37-55**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination of Chinnaswamy and Kozaki to incorporate the elements taught by Jin. The motivation being: a method and apparatus for implementing a quality of service policy by providing preferential treatment of different classes of data traffic.

3. Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chinnaswamy et al. (US 6,611,526), hereinafter referred to as Chinnaswamy, in view of in view of Kozaki et al. (US 6,389,026), hereinafter referred to as Kozaki in view of Yazaki et al. (US 2004/0228274), hereinafter referred to as Yazaki.

**Regarding claims 4 & 10**, Chinnaswamy as modified by Kozaki discloses the limitations of base claims 1 and 7.

However, the modification of Chinnaswamy by Kozaki fails to teach the limitations: flow identifying means for detecting a flow which is a set of packets having a certain property from packets input to said device; flow rate monitoring means for detecting whether a previously determined bandwidth under control is violated for each said flow; and forwarding searching means for determining, from contents of said packet, output line information indicating from which line said packet is to be output, wherein said packet control means creates and adds said header information based on flow information detected by said flow identifying means, information detected by said flow rate monitoring means, and output line information determined by said forwarding searching means.

Yazaki discloses a bandwidth monitoring device including a flow detection unit within a bandwidth monitoring unit for detecting flow based on stored packet header information (figure 5 unit 540 and page 5 paragraph 0073), a DSCP decision processing unit that determines a violation based on bandwidth check result information (figure 5 unit 530 and page 6 paragraph 0080), a routing processing unit that determines an output line for the packet (figure 1 unit 142 and page 4 paragraph 0052), and a packet receiving unit that writes the information from the bandwidth monitoring unit; which includes the flow detection unit & DSCP decision processing unit; and the routing processing unit into the packet (figure 1 unit 160 and page 4 paragraph 0053).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination of Chinnaswamy and Kozaki to incorporate the elements taught by Yazaki. The motivation being: a system that monitors bandwidth allowing for the effective use of a bandwidth contract.

4. Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chinnaswamy et al. (US 6,611,526), hereinafter referred to as Chinnaswamy, in view of in view of Kozaki et al. (US 6,389,026), hereinafter referred to as Kozaki in view of Yazaki et al. (US 2004/0228274), hereinafter referred to as Yazaki, in view of Heinanen et al., hereinafter referred to as Heinanen.

**Regarding claims 5 and 11,** Chinnaswamy and Kozaki as modified by Yazaki disclose the limitations of base claims 4 and 10.

However, the modification of Chinnaswamy and Kozaki by Yazaki fail to teach the router device wherein said flow rate monitoring means detects whether actual traffic matches, temporarily violates, or completely violates the previously determined bandwidth under contract for each said flow.

Heinanen discloses a Two Rate Three Color Marker that tags a packet depending on peak rate, where if a packet is marked red it is discarded because it exceeds the peak rate, if a packet is marked yellow it is forwarded at a best effort, and if a packet is marked green it is forwarded at a low drop probability (page 3 section 5; it is implicit that the flow rate of a packet can also be known as bandwidth).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination of Chinnaswamy, Kozaki and Yazaki to

Art Unit: 2663

incorporate the Two Rate Three Color Marker taught by Heinanen. The motivation being: a technique of controlling the amount of transmitted data, thus creating a more reliable system.

5. Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chinnaswamy et al. (US 6,611,526), hereinafter referred to as Chinnaswamy, in view of Kozaki et al. (US 6,389,026), hereinafter referred to as Kozaki, in view of Gupta (US 6,278,714), hereinafter referred to as Gupta.

**Regarding claims 6 and 12**, Chinnaswamy as modified by Kozaki disclose the limitations of base claim 1 and 7.

However, Chinnaswamy as modified by Kozaki fails to teach the limitations: an input side in-device cell buffer for temporarily storing said in-device cell; an output side in-device cell buffer provided corresponding to an output line for temporarily storing said in-device cell; and switching means for switching said in-device cell stored in said input side in-device cell buffer to said output side in-device cell buffer, wherein said input side in-device cell buffer, said output side in-device cell buffer, and said switching means are controlled on the basis of said header information.

Gupta discloses an ATM switch where an incoming cell is received in an in-buffer port, a tag is used to extract the output port destination, a switching interface for connecting in-buffer port to an out buffer port using the tag (**Figure 6 units 640, 630, 650 and column 7 lines 57-63**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Chinnaswamy as modified by Kozaki to incorporate the



Art Unit: 2663

elements taught by Gupta. The motivation being: an efficient mechanism for quickly allocating multiple connections.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:


a) Muthukrishnan et al. (US 2005/0135355), Switching Device Utilizing Internal Priority Assignments

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Feben M Haile whose telephone number is (571) 272-3072. The examiner can normally be reached on 6:00am - 3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Att 09/16/2005

  
RICKY NGO  
PRIMARY EXAMINER

9/19/05